Name _____ Date _____ Class _____

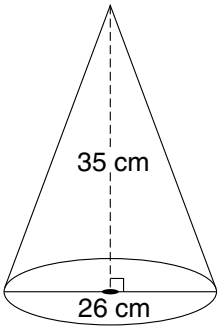
LESSON 6-7

Practice C

Volume of Pyramids and Cones

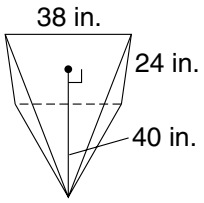
Find the volume of each figure to the nearest tenth of a unit.

1.



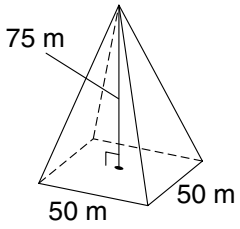
_____

2.



_____

3.



_____

Find the missing measure to the nearest tenth of a unit.

4. rectangular pyramid:
base length = 15 m
base width = ?
height = 21 m
volume = 2415 m^3

_____

5. triangular pyramid:
base width = 8 cm
base height = 18 cm
height = ?
volume = 624 cm^3

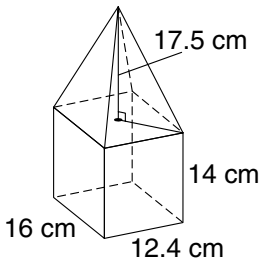
_____

6. A cone has diameter of 24 ft and height of 15 ft. How many times will the volume of the cone fill a cylinder with radius of 18 ft and a height of 25 ft? Round your answer to the nearest whole number.

_____

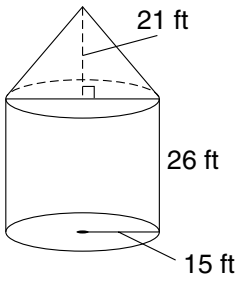
7. Find the volume of the figure to the nearest tenth of a unit.

_____



8. Find the volume of the figure to the nearest tenth of a unit.

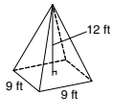
_____



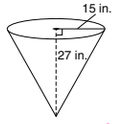
LESSON 6-7 Practice B

Volume of Pyramids and Cones

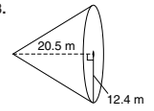
Find the volume of each figure to the nearest tenth of a unit.

1. 

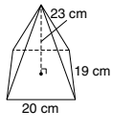
324 ft^3

2. 

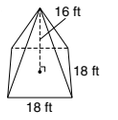
6358.5 in^3

3. 

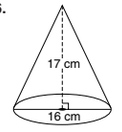
3299.2 m^3

4. 

2913.3 cm^3

5. 

1728 ft^3

6. 

1138.8 cm^3

7. The base of a regular pyramid has an area of 28 in^2. The height of the pyramid is 15 in. Find the volume. 140 in^3

8. The radius of a cone is 19.4 cm and its height is 24 cm. Find the volume of the cone to the nearest tenth. 9454.2 cm^3

9. Find the volume of a rectangular pyramid if the height is 13 m and the base sides are 12 m and 15 m. 780 m^3

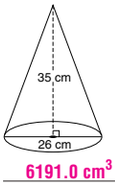
10. A funnel has a diameter of 9 in. and is 16 in. deep. What is the volume of the funnel to the nearest tenth of a unit? 339.1 in^3

11. A square pyramid has a height 18 cm and a base that measures 12 cm on each side. Explain whether tripling the height would triple the volume of the pyramid. Possible answer: The volume of the original pyramid is 864 cm^3. The volume of the new pyramid is 2592 cm^3. Therefore, if the height of the pyramid were tripled, its volume would be tripled.

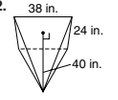
LESSON 6-7 Practice C

Volume of Pyramids and Cones

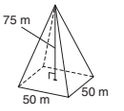
Find the volume of each figure to the nearest tenth of a unit.

1. 

6191.0 cm^3

2. 

12,160 in^3

3. 

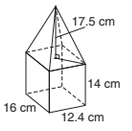
62,500 m^3

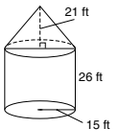
Find the missing measure to the nearest tenth of a unit.

4. rectangular pyramid:
base length = 15 m
base width = ?
height = 21 m
volume = 2415 m^3
base width = 23 m

5. triangular pyramid:
base width = 8 cm
base height = 18 cm
height = ?
volume = 624 cm^3
height = 26 cm

6. A cone has diameter of 24 ft and height of 15 ft. How many times will the volume of the cone fill a cylinder with radius of 18 ft and a height of 25 ft? Round your answer to the nearest whole number. 11 times

7. Find the volume of the figure to the nearest tenth of a unit.
3934.9 cm^3


8. Find the volume of the figure to the nearest tenth of a unit.
23,314.5 ft^3


LESSON 6-7 Reteach

Volume of Pyramids and Cones

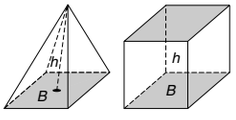
Pyramid: solid figure named for the shape of its base, which is a polygon; all other faces are triangles


Pentagonal Pyramid

This rectangular pyramid and rectangular prism have congruent bases and congruent heights.

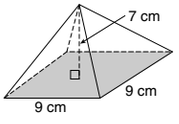
Volume of Pyramid = $\frac{1}{3}$ Volume of Prism

$V = \frac{1}{3}Bh$



Complete to find the volume of each pyramid.

1. square pyramid



base is a square

$V = \frac{1}{3}Bh$

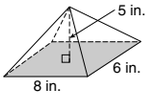
$V = \frac{1}{3}$(area of square) $\times h$

$V = \frac{1}{3}(9 \times 9) \times 7$

$V = \frac{1}{3}(81) \times 7$

$V = 189$ cm^3

2. rectangular pyramid



base is a rectangle

$V = \frac{1}{3}Bh$

$V = \frac{1}{3}$(area of rectangle) $\times h$

$V = \frac{1}{3}(8 \times 6) \times 5$

$V = \frac{1}{3}(48) \times 5$

$V = 80$ in^3

LESSON 6-7 Reteach

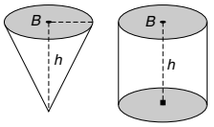
Volume of Pyramids and Cones (continued)

Cone: solid figure with a circular base

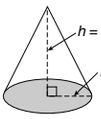
This cone and cylinder have congruent bases and congruent heights.

Volume of Cone = $\frac{1}{3}$ Volume of Cylinder

$V = \frac{1}{3}Bh$



Complete to find the volume of each cone.

3. 

radius r of base = 3 in.

$V = \frac{1}{3}Bh$

$V = \frac{1}{3}(\pi r^2)h$

$V = \frac{1}{3}(\pi \times 3^2) \times 10$

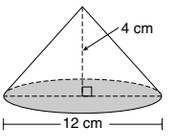
$V = \frac{1}{3}(9\pi) \times 10$

$V = 3\pi \times 10$

$V = 30\pi$

$V \approx 30 \times 3.14$

$V \approx 94.2$ in^3

4. 

radius $r = \frac{1}{2}$ diameter = 6 cm

$V = \frac{1}{3}Bh$

$V = \frac{1}{3}(\pi r^2)h$

$V = \frac{1}{3}(\pi \times 6^2) \times 4$

$V = \frac{1}{3}(36\pi) \times 4$

$V = 12\pi \times 4$

$V = 48\pi$

$V \approx 48 \times 3.14$

$V \approx 150.72$ cm^3